1. (previously presented) A computer system, comprising:

plural computer nodes, each node:

determining a system topography;

determining an optimum nodal membership based on the topography, the determining of an optimum nodal membership at each of the plural nodes converging with the determining of an optimum nodal membership on each of the other nodes of the plural nodes in the computer system with each of the plural nodes arriving at the same optimum nodal membership without having to transmit optimization solutions to the other nodes of the plural nodes, the optimum nodal membership that is arrived at by the plural nodes without having to transmit optimization solutions to the other nodes being used by all nodes in the system.

2. (previously presented) The system of Claim 1, comprising more than two nodes, the determining of an optimum nodal membership being based on a seed, the seed being the same for each node such that each node uses the same seed as every other node in determining the optimum membership, such that the optimum membership arrived at by each node is the same membership arrived at by every other node.

3. (previously presented) The system of Claim 1, wherein determining an optimum membership is undertaken using a randomized simulated annealing technique.

4. (previously presented) The system of Claim 1, wherein each node includes a link state module undertaking the determining a topology and an optimization module undertaking the determining an optimum membership, the link state module sending the topology to the optimization module.

5. (original) The system of Claim 4, wherein the link state module at each node communicates with at least one link state module at another node in the system.

6. (original) The system of Claim 4, wherein the link state module communicates with a database of links and nodes.

7. (previously presented) The system of Claim 6, wherein elements in the database are periodically refreshed.

8. (original) The system of Claim 4, wherein each node includes an event manager receiving the optimum membership from the optimization module, the optimum membership being used by the event manager during system operations.

9. (currently amended) The system of Claim 4, the optimization module further

iteratively determining plural solutions;

determining which solution is a most desirable solution;

returning the most desirable solution responsive to a determination that [[it]] the most desirable solution is fully connected; otherwise

returning a next most desirable solution responsive to a determination that the next most desirable solution is fully connected.

10. (currently amended) A computer program device comprising:

a non-transitory computer program storage device readable by a processor; and

a program on the program storage device and including instructions executable by the processor for determining an optimum membership in a set of nodes in a system, the ~~program~~ instructions to the processor comprising:

~~means for~~ receiving state changes in the system; and

~~means for~~ determining the optimum membership based at least in part on the state changes, using a random number seed that is made available to at least two nodes in the system with each node arriving at the same optimum membership as the other nodes but independently of optimum memberships developed by the other nodes.

11. (currently amended) The computer program device of Claim 10, the instructions further comprising:

~~means for~~ determining a system topography based on the state changes.

12. (currently amended) The computer program device of Claim 11, wherein the ~~means for~~ determining an optimum membership instruction causes the processor to use[[s]] a randomized simulated annealing technique.

13. (currently amended) The computer program device of Claim 11, wherein the ~~means for~~ receiving state changes instruction causes the processor to receive[[s]] messages from at least one remote node in the system.

14. (currently amended) The computer program device of Claim 10, wherein the ~~means for~~ receiving instruction causes the processor to communicate[[s]] with a database of links and nodes.

15. (currently amended) The computer program device of Claim 14, the instructions to the processor also comprising ~~means for~~ refreshing elements in the database.

16. (currently amended) The computer program device of Claim 10, the instructions to the processor further comprising ~~means for~~ receiving the optimum membership ~~from the means for determining for use thereof~~ during system operations.

17. (currently amended) The computer program device of Claim 10, wherein the instructions ~~means~~ for determining include[[s]]:

~~means for~~ iteratively determining plural solutions;

~~means for~~ determining which solution is a most desirable solution;

~~means for~~ returning the most desirable solution responsive to a determination that it is fully connected, and otherwise returning a next most desirable solution responsive to a determination that the next most desirable solution is fully connected.

18. (previously presented) A method for providing at least first and second computer nodes in a system of nodes with a membership that is identical for each first and second node without requiring the membership to be communicated between the nodes, comprising the acts of:

providing each node with a random seed, the random seed being the same at the first node as it is at the second node; and

at the first and second nodes, using the random seed to arrive at a membership in the system of nodes with each node arriving at the same membership as the other nodes but independently of the memberships arrived at by the other nodes.

19. (original) The method of Claim 18, wherein the system includes more than two nodes, all nodes in the system being provided with the random seed, the act of using the random seed being undertaken at each node.

20. (original) The method of Claim 18, further comprising:

determining a system topography; and

determining the membership based on the topography.

21. (original) The method of Claim 20, wherein the act of determining a membership is undertaken using a randomized simulated annealing technique.

22. (original) The method of Claim 18, further comprising, at at least plural nodes, communicating state changes to other nodes in the system.

23. (original) The method of Claim 18, comprising using the membership during system operations.

24. (previously presented) The method of Claim 18, further comprising:

iteratively determining plural solutions to a weak membership problem;

determining which solution is a most desirable solution;

returning the most desirable solution responsive to a determination that it is fully connected; otherwise

returning a next most desirable solution responsive to a determination that the next most desirable solution is fully connected.

25. (previously presented) A method for establishing, at at least first and second computer nodes in a system of computer nodes, an optimization that is identical for each first and second node without requiring the optimization to be communicated between the nodes, comprising the acts of:

executing the optimization at the first node and the second node such that each node must arrive at the same optimization as the other node and independently thereof.

26. (original) The method of Claim 25, comprising:

providing each node with a random seed, the random seed being the same at the first node as it is at the second node; and

at the first and second nodes, using the random seed to arrive at the optimization.

27. (original) The method of Claim 26, wherein the system includes more than two nodes, all nodes in the system being provided with the random seed, the act of using the random seed being undertaken at each node.

28. (original) The method of Claim 26, further comprising:

determining a system topography; and

determining the optimization based on the topography.

29. (original) The method of Claim 28, wherein the act of determining an optimization is undertaken using a randomized simulated annealing technique.

30. (original) The method of Claim 26, further comprising, at at least plural nodes, communicating state changes to other nodes in the system.

31. (original) The method of Claim 26, comprising using the optimization during system operations.

32. (previously presented) The method of Claim 26, further comprising:

iteratively determining plural solutions to a problem;

determining which solution is a most desirable solution;

returning the most desirable solution responsive to a determination that it is fully connected; otherwise

returning a next most desirable solution responsive to a determination that the next most desirable solution is fully connected.

33. (previously presented) A method for providing plural nodes in a system of nodes with a membership that is identical for each node, comprising:

providing topology information;

providing a respective version of a node membership optimization module to each of plural views, wherein each version of the node membership optimization module determines a node membership and wherein for each view, a view containing a respective local node is selected, the nodes subsequently using the node membership.

34. (previously presented)The method of Claim 33, wherein each node maintains a population of N+X individuals, where N is a maximum number of nodes in the cluster and X is a population size related to a non-distributed solution, wherein every instance of each of N individuals, one instance per node, being owned by one node such that a node "1" in the system owns all instances of individual "1" on nodes 1 to N of the system and a node "2" in the system owns all instances of an individual 2 on nodes 1 to N of the system.

35. (previously presented)The system of Claim 34, wherein the N individuals are updated using a protocol such that responsive to the node 1 choosing to change a value of the individual 1, all nodes are informed of the value for individual 1.

36. (previously presented)The system of Claim 35, wherein responsive to a node detecting a topology change, the node detecting the topology change randomizes X individuals and executes the node optimization module.

37. (previously presented)The system of Claim 36, wherein the node optimization module of the node detecting the topology change incorporates all N+X individuals in the population but only replaces at most the X individuals.

38. (previously presented)The system of Claim 37, wherein the node optimization module of the node detecting the topology change randomly selects two parents from X+N individuals are randomly selected, offspring of the parents being "mutated" to establish a new individual to replace a least fit of the X individuals.

39. (previously presented)The system of Claim 38, wherein the node optimization module of the node detecting the topology change, responsive to creating a new most fit individual which is not represented amongst the N individuals, replaces the one of the N individuals that it owns with the new most fit individual and propagates a resultant new solution to all of the other nodes in the system.

40. (previously presented)The system of Claim 39, wherein node optimization modules execute until a propagated solution has remained constant for a number of iterations or a period of time.

41. (previously presented)The system of Claim 40, wherein responsive to optimization terminating, the most fit individual from the N+X is selected as a system-wide solution.